

WO 01/41760

PCT/US00/32434

## WHAT IS CLAIMED IS:

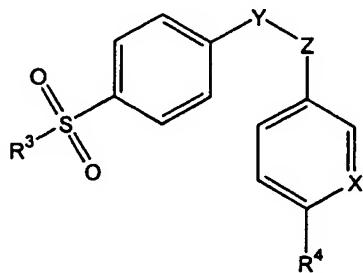
1. A pharmaceutical composition comprising one or more orally deliverable dose units, each comprising a selective cyclooxygenase-2 inhibitory drug of low water solubility in a therapeutically effective amount, wherein the drug is present in solid particles having a  $D_{90}$  particle size of about 0.01  $\mu\text{m}$  to about 200  $\mu\text{m}$ , a sufficient portion by weight of the particles being smaller than 1  $\mu\text{m}$  to provide a substantially higher  $C_{\max}$  and/or a substantially shorter  $T_{\max}$  by comparison with an otherwise similar composition wherein substantially all of the particles are larger than 1  $\mu\text{m}$ .
2. A pharmaceutical composition comprising one or more orally deliverable dose units, each comprising a selective cyclooxygenase-2 inhibitory drug of low water solubility in a therapeutically effective amount, wherein the drug is present in solid particles having a  $D_{90}$  particle size of about 0.01  $\mu\text{m}$  to about 200  $\mu\text{m}$ , and wherein about 25% to 100% by weight of the particles are smaller than 1  $\mu\text{m}$ .
3. The composition of Claim 1 or Claim 2 wherein substantially all of the particles are smaller than 1  $\mu\text{m}$ .
4. The composition of any of Claims 1 to 3 wherein the dose units are in the form of discrete solid articles.
5. The composition of Claim 4 wherein the solid articles are tablets or capsules.
6. The composition of any of Claims 1 to 3 that is in the form of a substantially homogeneous flowable mass from which single dose units are measurably removable.
7. The composition of Claim 6 wherein the substantially homogeneous flowable mass is a liquid suspension.
8. The composition of any of Claims 1 to 7 wherein the solid particles have a  $D_{25}$  particle size of about 450 nm to about 1000 nm.
9. The composition of any of Claims 1 to 7 wherein about 25% to 100% by weight of the solid particles have a particle size of about 450 nm to about 1000 nm.
10. The composition of any of Claims 1 to 7 wherein the solid particles have a

WO 01/41760

PCT/US00/32434

weight average particle size of about 450 nm to about 1000 nm.

11. The composition of any of Claims 1 to 10 wherein the selective cyclooxygenase-2 inhibitory drug is a compound of formula



where R<sup>3</sup> is a methyl or amino group, R<sup>4</sup> is hydrogen or a C<sub>1-4</sub> alkyl or alkoxy group, X is N or CR<sup>5</sup> where R<sup>5</sup> is hydrogen or halogen, and Y and Z are independently carbon or nitrogen atoms defining adjacent atoms of a five- to six-membered ring that is unsubstituted or substituted at one or more positions with oxo, halo, methyl or halomethyl groups.

12. The composition of Claim 11 wherein the five- to six-membered ring is selected from the group consisting of cyclopentenone, furanone, methylpyrazole, isoxazole and pyridine rings substituted at no more than one position.
13. The composition of any of Claims 1 to 10 wherein the selective cyclooxygenase-2 inhibitory drug is selected from the group consisting of celecoxib, deracoxib, valdecoxib, rofecoxib, 5-chloro-3-(4-methylsulfonyl)phenyl-2-(2-methyl-5-pyridinyl)pyridine, 2-(3,5-difluorophenyl)-3-[4-(methylsulfonyl)phenyl]-2-cyclopenten-1-one and (S)-6,8-dichloro-2-(trifluoromethyl)-2H-1-benzopyran-3-carboxylic acid.
14. The composition of Claim 13 wherein the selective cyclooxygenase-2 inhibitory drug is celecoxib.
15. The composition of Claim 14 comprising about 10 mg to about 1000 mg celecoxib in each dose unit.
16. A method of treating a medical condition or disorder in a subject where treatment with a cyclooxygenase-2 inhibitor is indicated, comprising orally administering one or more dose units of a composition of any of Claims 1 to 15 one to about six times a day.

WO 01/41760

PCT/US00/32434

17. The method of Claim 16 wherein the medical condition or disorder is accompanied by acute pain.
18. A method of use of solid particles of a selective cyclooxygenase-2 inhibitory drug of low water solubility in manufacture of a medicament useful in treatment or prophylaxis of a COX-2 mediated condition or disorder, said solid particles having a D<sub>90</sub> particle size of about 0.01 μm to about 200 μm, and wherein about 25% to 100% by weight of the solid particles are smaller than 1 μm.